HYDRO

HYDROPOWER PLANT INSPECTION AND ASSESSMENT

OPERATION AND MAINTENANCE DIGITAL SOLUTIONS AND SERVICES

ANDRITZ HYDRO,
CANADA

ANDRITZ

ENGINEERED SUCCESS

The need for advanced inspection and assessment solutions

With the number of aging power plants increasing worldwide, the effective assessment of hydropower assets is gaining ever-greater importance. Owners and operators of older facilities still need to ensure and improve the long-term value, safety, and operating results of these assets.

Consequently, developing an O&M strategy suited to today's business environment offers considerable commercial benefits. The need for adequate information is key to help decision-making, risk assessment, and selecting appropriate maintenance strategies, such as deciding on a predictive or scheduled maintenance program. Assessing the condition of aging hydropower components is therefore a cornerstone of modern hydropower asset management.

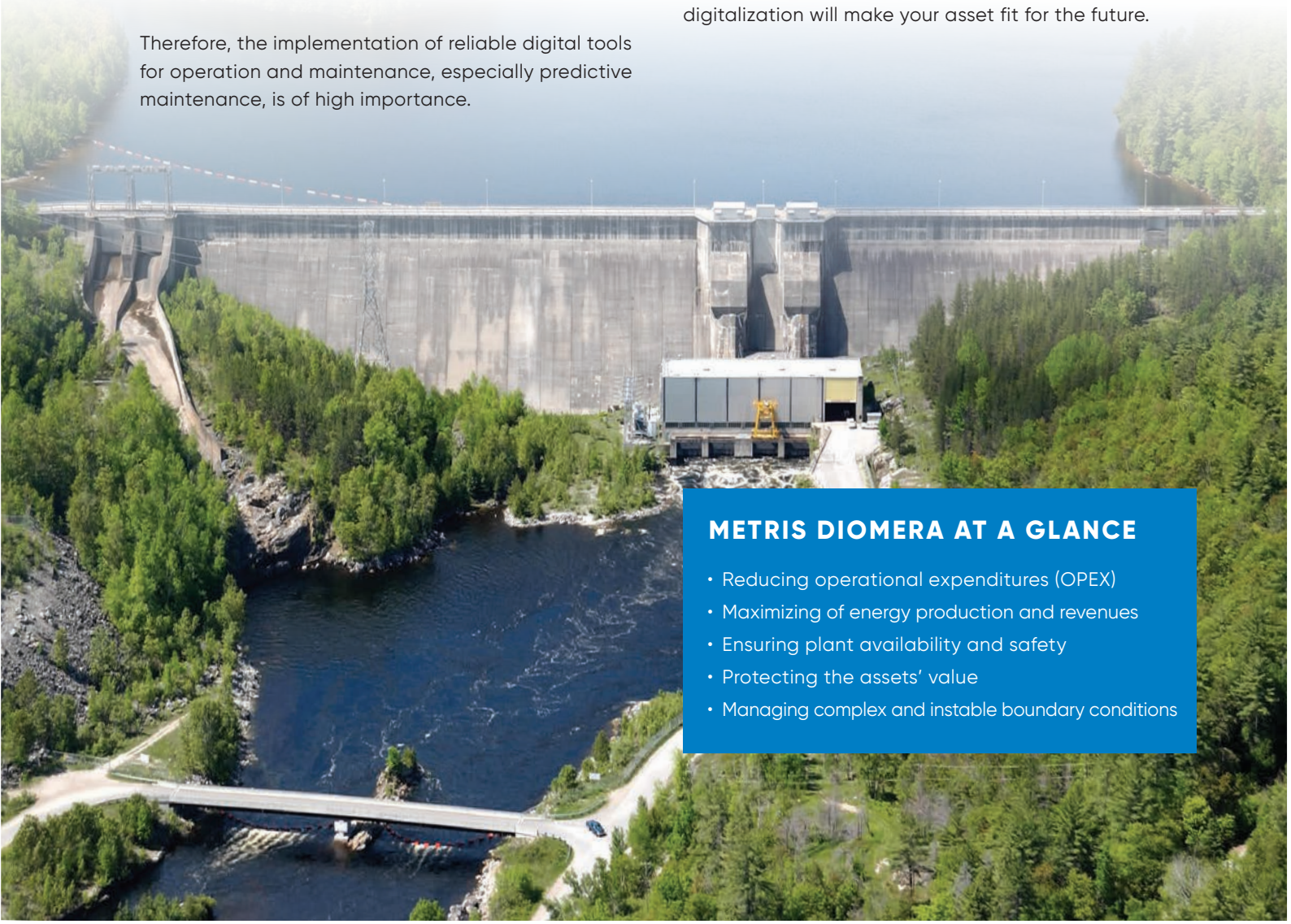
Therefore, the implementation of reliable digital tools for operation and maintenance, especially predictive maintenance, is of high importance.

METRIS DIOMERA - ANDRITZ' SOLUTION FOR DIGITIZATION

Metris DiOMera is a modular and flexible platform for operation and maintenance of hydropower plants that optimally meets specific customer requirements, preserves the environment, and supports operation management.

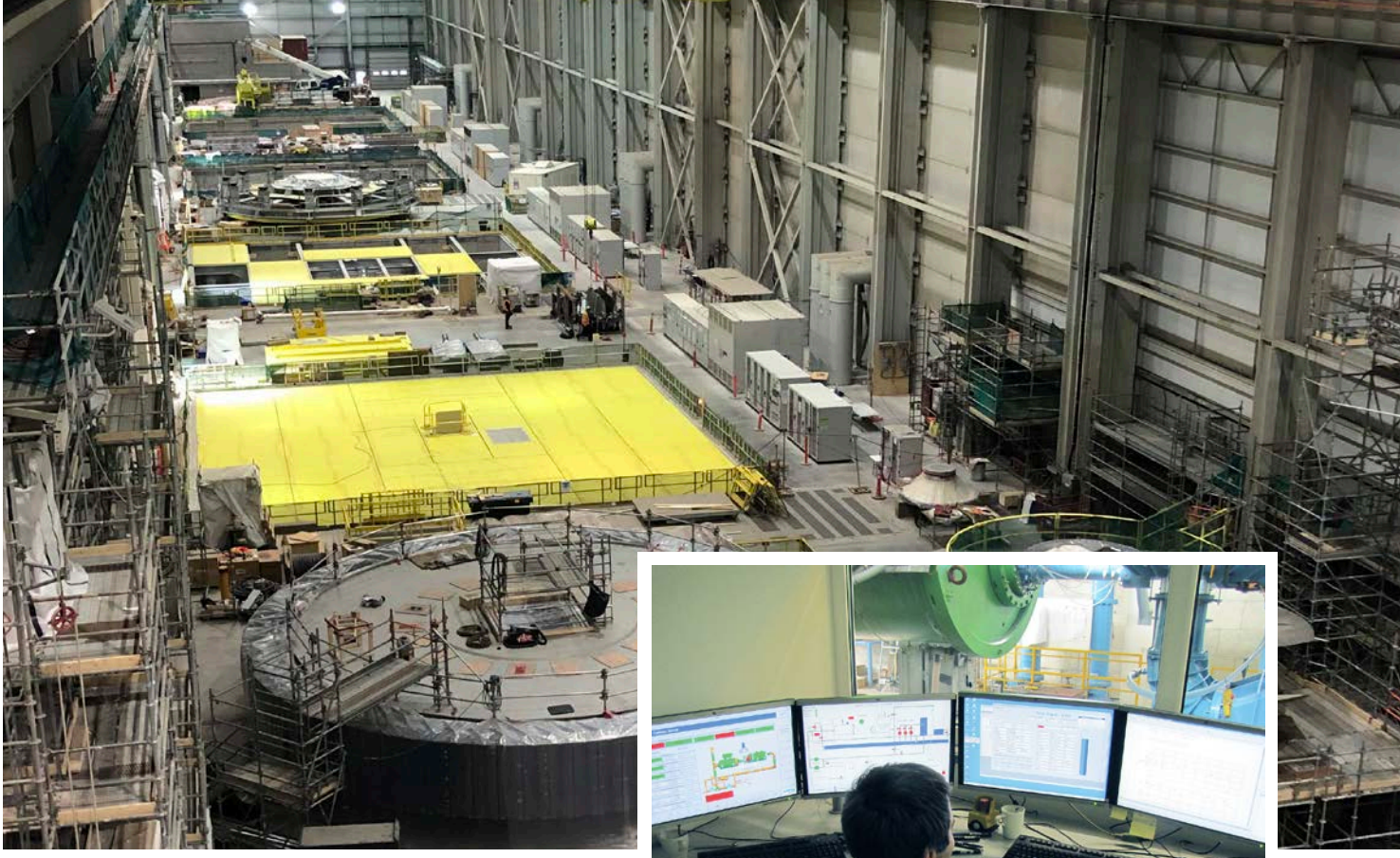
It is the most advanced and intelligent hydropower assistance tool. It allows ANDRITZ to provide its strategic partners with added value assistance to maximize their generation output and optimize maintenance costs in addition to a continuous and comprehensive risk evaluation of the asset throughout its lifecycle.

Operation and maintenance by ANDRITZ enhanced by digitalization will make your asset fit for the future.



METRIS DIOMERA AT A GLANCE

- Reducing operational expenditures (OPEX)
- Maximizing of energy production and revenues
- Ensuring plant availability and safety
- Protecting the assets' value
- Managing complex and instable boundary conditions



METRIS DIOMERA ASSESS

Within Metris DiOMera, ANDRITZ engineers have developed a new software tool to facilitate the rapid and professional assessment of key plant components – the METRIS DiOMera ASSESS.

This ISO 55000 certified software platform provides an expert engineering service which aims to provide any HPP electromechanical equipment detailed diagnosis based on visual inspection. The tool consists of a set of so-called "know-how databases" that cover each plant system such as the turbine or generator supporting the execution and documentation of hydropower plant inspections. Each of these databases is structured with details of the core components and the related inspections that should be performed. The status of all HPP systems and components are assessed in terms of production maximization, reduction of maintenance costs and improved reliability, following the AHP (Analytical Hierarchical Process) approach.

Metris DiOMera ASSESS can be customized to the specific project needs and allows offline and online usage. Online remote expert support is possible by sharing the interface with multiple synchronized devices in real-time. These real-time and collaborative features of Metris DiOMera ASSESS are extremely valuable for sharing understanding, and even editing jointly images mobile devices, while handling direct their insertion into automated French and/or English written reports.

SITE REPORT INSPECTION

The results of the inspection are documented in a report, which includes a full status of the equipment, detailed risk, and potential analysis as well as proposals for improvement. Owners and operators of the hydropower plant have a better knowledge regarding the positive and negative events which could, in the future, have an influence on the value produced from their infrastructures.

This provides a strong basis for the operator in his selection and decision process for the optimal rehabilitation scenario.

A SITE REPORT INSPECTION CAN LEAD TO FURTHER STEPS WITH:

- Clear status of the machines for any system and component
- Fingerprint measurements / geometry recovery
- Rehabilitation recommendations
- Spare parts management
- Troubleshooting
- Root cause analysis

Creating value for our customers

The Metris DiOMera ASSESS tool is designed to be open and flexible to fit into existing maintenance, planning, budgeting, and decision-making structures. Metris DiOMera ASSESS can also serve multiple users within an organization who may have distinct roles and responsibilities for hydropower asset management.

Creating a framework to streamline and simplify methods for objectively evaluating the condition of hydroelectric equipment, DiOMera ASSESS supports asset and risk management decision-making. Equipment condition assessments can help operators and owner to identify and develop long-term investment strategies for hydroelectric power plant.

"ANDRITZ is committed to achieve maximum customer benefit."

A typical example of digital assessment with the Metris DiOMera ASSESS tool is the Aconcagua hydropower complex in Chile. Located near the Argentinian border and consisting of five plants with a total capacity of 215 MW, this complex is a strategically important power-generating asset. As a service provider, ANDRITZ supported the customer with the advanced DiOMera ASSESS diagnostics for most of the core components and could provide suitable guidance and prioritization for the next major rehabilitation activities, saving the customer time and money.

ANDRITZ HYDRO Canada Inc.

ANDRITZ' engagement in Canada dates back to 1892. Since then, ANDRITZ has installed or modernized over 900 turbine units with about 47 GW of capacity and over 530 generators with about 50 GW of capacity.

With offices dedicated to gates, valves, automation, turbines and generators, ANDRITZ HYDRO Canada Inc is fully qualified and equipped in the use of the Metris DiOMera Assess Tool to support Canadian owners and operators in the management of their assets. The highly trained and experienced personnel is committed to use their long and extensive expertise and knowledge to perform a rapid and professional assessment of hydropower plant components to the benefits of our customers.

ANDRITZ HYDRO Canada Inc.
6100 Trans Canada Highway
Pointe-Claire, QC H9R 1B9
p: +1 (514) 428 6700
e: Hydro-Services.ca@andritz.com

ANDRITZ.COM/HYDRO-CA

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